

ART 1/2 MODIFICATION NOTE 20 (for Electronics Technicians)

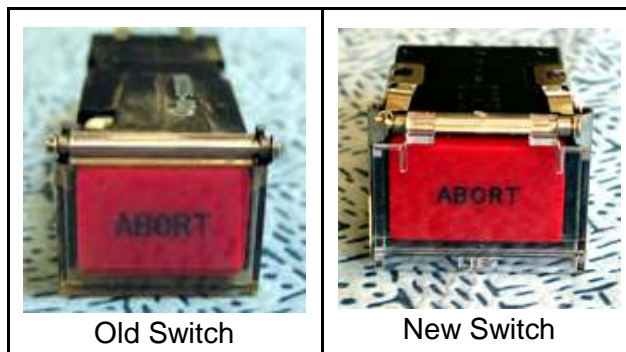
Maintenance, Logistics, and Acquisition Division

W/OPS12: KC

SUBJECT	: Replacement of the abort switch in the ART Remote Control Unit (RCU).						
PURPOSE	: To provide installation instructions for a larger replacement switch when the current switch fails.						
EQUIPMENT AFFECTED	: All ART systems in the CONUS, Alaska, and Pacific regions.						
PARTS REQUIRED	: The following parts may be ordered through the National Logistics Support Center (NLSC): <table><tr><th>Quantity</th><th>Description</th></tr><tr><td>1</td><td>Abort switch (ASN: J170-5A1S4)</td></tr><tr><td>1</td><td>Greenlee punch (.750" x 1.140") (ASN: 041-P-18-2)</td></tr></table>	Quantity	Description	1	Abort switch (ASN: J170-5A1S4)	1	Greenlee punch (.750" x 1.140") (ASN: 041-P-18-2)
Quantity	Description						
1	Abort switch (ASN: J170-5A1S4)						
1	Greenlee punch (.750" x 1.140") (ASN: 041-P-18-2)						
SPECIAL TOOLS REQUIRED	: Long flat-blade screwdriver (1/8 inch x 8 inch) Phillips screwdriver Adjustable open-end wrench (10 inch) Wire strippers Wire cutters 60 watt pencil soldering iron with a 1/16 inch size or equivalent screwdriver tip Solder						
MODIFICATION PROCUREMENT	: None.						
EFFECTIVITY	: Upon failure of an ART 1 or ART 2 RCU abort switch.						
ESTIMATED TIME REQUIRED	: Approximately 2 hours.						
EFFECT ON OTHER INSTRUCTIONS	: None.						
AUTHORIZATION	: N/A						
VERIFICATION STATEMENT	: This modification was tested at the National Reconditioning Center (NRC) in Kansas City, MO.						

GENERAL:

The current abort switch in the ACU is no longer manufactured. This modification note contains instructions for the replacement of an old defective abort switch (P/N 900115-02) with the newer, slightly larger switch.

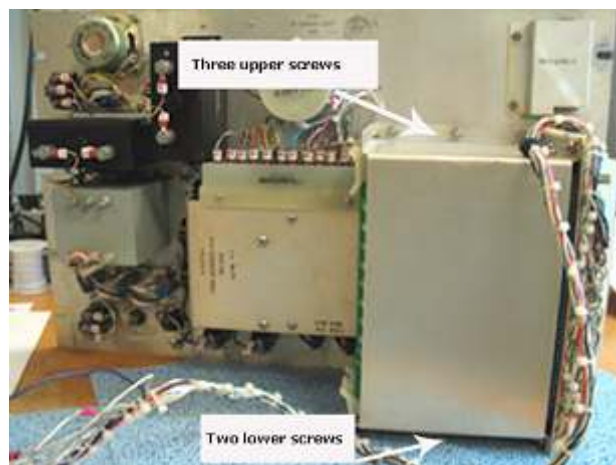
**PROCEDURE**

The new abort switch is slightly larger than the old switch. It is necessary to use a Greenlee punch to enlarge the switch hole on the RCU faceplate.

NOTE: Because the Greenlee punches cost over \$250.00 each and there are only five in stock, electronic technicians (ET) are asked to promptly return the punches to the NLSC or be charged for the price of the punch.

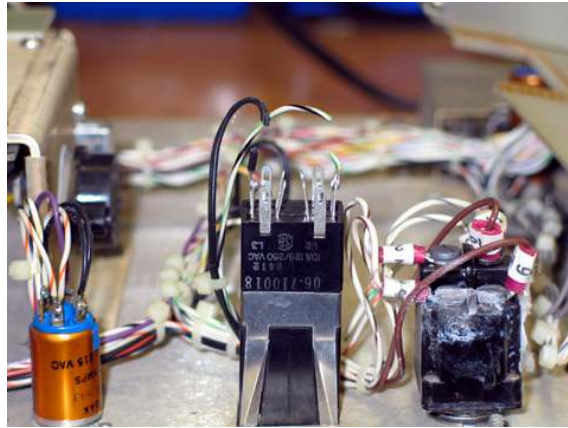
A. REMOVAL OF THE OLD ABORT SWITCH

1. Turn off electrical power to the RCU (5A1).
2. Remove eight screws around the outside edge of the front panel (5A2H243 through 5A2H250) and lower RCU front panel (5A1) (see Card Cage Assembly).
3. Remove the five Phillips head screws securing the card cage assembly to the front panel (400067-31).
4. Remove the card cage assembly from the front panel.



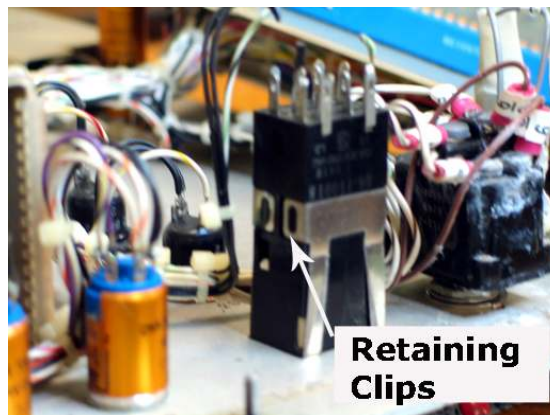
Card Cage Assembly

5. Cut the color coded electrical leads to the abort switch, see attached Cut Wires photo.



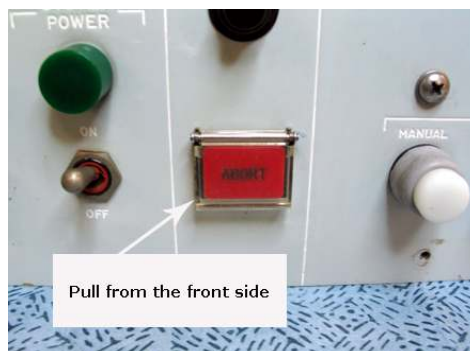
Cut Wires

6. Remove the two switch retaining clips by sliding a small screwdriver underneath one edge of the clip and push/rotate toward the plastic keeper.



Retaining Clips

7. Pull the switch out through the front of the front panel.



8. Pull the wires back in through the front panel.

THIS COMPLETES THE ABORT SWITCH REMOVAL PROCEDURE.

B. ENLARGING THE ABORT SWITCH HOLE

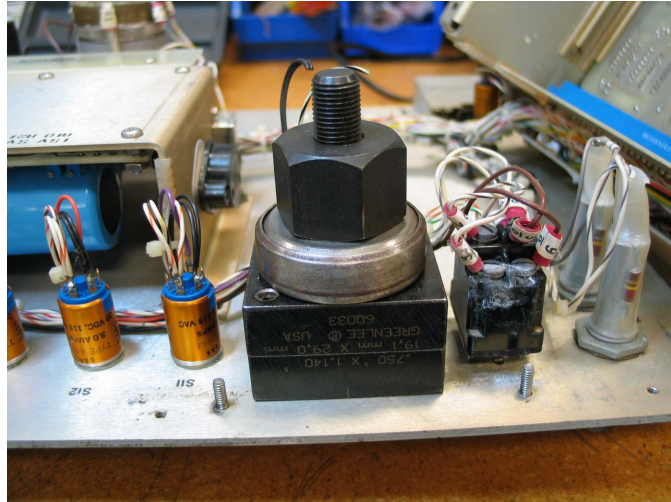
1. From the Greenlee punch, remove the counter nut and punch from the die and ball bearing drive nut.



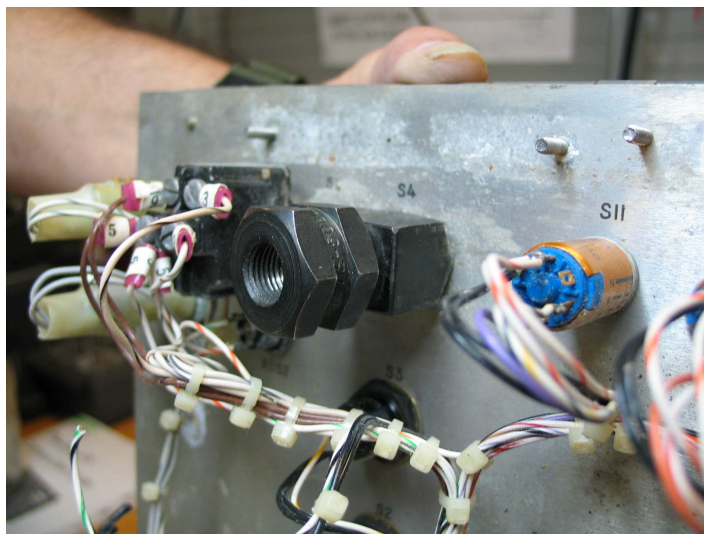
2. Slide the Greenlee punch through the front of the abort switch hole.



3. From the back of the front panel, slip the punch over the draw stud and attach the counter nut.



4. Ensure the punch is centered on the existing hole and hand tighten the counter nut.



5. With an adjustable open-end wrench, carefully turn the drive nut clockwise. While turning, ensure the punch is still centered on the hole. Continue turning until the punch meets the die and the metal is cut. This is usually characterized by a sharp "crack".



6. From the back of the front panel, loosen the counter nut. If the counter nut cannot be loosened, turn the drive nut counter clockwise until the counter nut can be loosened.

THIS COMPLETES THE ABORT SWITCH HOLE ENLARGEMENT PROCEDURE.

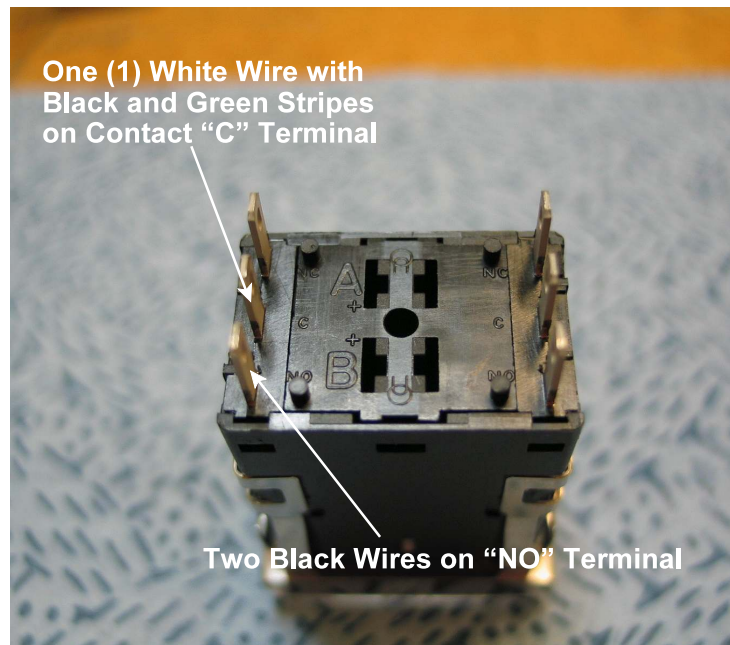
C. INSTALLING THE NEW ABORT SWITCH

NOTE: Use the following guidelines when soldering the wires to the terminals of the new abort switch:

- Use a 60 watt pencil soldering iron with a 1/16 inch size or equivalent screwdriver tip.
- Soldering iron tip must not exceed 550 degrees Fahrenheit.
- Terminal contact time must not exceed 6 seconds.
- Apply light pressure from the soldering iron to the switch terminals. Ensure that the tip is clean. A dirty tip does not transfer heat efficiently and requires a long dwell time as well as increased pressure.

1. From behind the front panel, pull the abort switch wires out through the front by way of the widened abort switch hole.

2. As depicted in the photograph, solder the three abort switch wires to the terminals on the back of the new abort switch.



3. To remove the two switch holding clips, slide a small screwdriver underneath one edge of the clip and push/rotate slightly toward the plastic keepers as shown below.



4. From the front of the front panel, slide the switch into the abort switch hole.
5. Replace the two switch holding clips and ensure the clips snap onto the plastic keepers.

THIS COMPLETES THE ABORT SWITCH INSTALLATION PROCEDURE.

D. RCU FRONT PANEL REPLACEMENT

1. Remove any tags added to the electrical leads to the abort switch.
2. Replace the card cage assembly onto the front panel with the five Phillips head screws.
3. Raise the RCU front panel (5A1) and replace the eight screws (5A2H243 through 5A2H250).

E. ABORT SWITCH OPERATIONAL TEST PROCEDURE

1. Turn on electrical power to the RCU (5A1).
2. Press the **RELEASE/REMOTE** button on the RCU (button directly above the abort switch). An immediate beeping sound (one beep per second) will come from the RCU, which means the elapsed time clock is running.
3. Anytime within 55 seconds after the beeping has started, press the ABORT switch (If not pushed within the 55 seconds, the ART will start up).
4. If the beeping stops and the ART does not start up, the abort switch is functioning correctly.
5. If the beeping does not stop, check the wiring and solder connections on the back of the new abort switch.

THIS COMPLETES MODIFICATION NOTE 20.

F. RETURN THE GREENLEE PUNCH TO STOCK

1. Remove any metal debris from the punch.
2. Reassemble the punch.
3. Pack the Greenlee punch in a sturdy box.
4. Ship to the NLSC.

National Logistics Support Ctr.
1510 E. Bannister Rd., Bldg. 1
Kansas City, MO 64131
Attn: Tracy Williams

REPORTING INSTRUCTIONS:

Report the completed modification using the Engineering Management Reporting System (EMRS) according to the instructions in NWS Instruction 30-2104, Maintenance Documentation, Part 4, Appendix H. Include the following information on the EMRS Report:

Equipment code of **ART1** or **ART2** in block 7

Serial number of the **ART 1/2** in block 8

Modification number of **20** in block 17a

A sample EMRS report is provided as attachment A.

Mark S. Paese
Director, Maintenance, Logistics, and Acquisition Division

Attachment A - EMRS Report Sample

Attachment A - EMRS Report Sample

A26 Detail Form - ESCM2, SILVER SPRING, MD :: EMRS ANALYST - Microsoft Internet Explorer

GENERAL INFORMATION

NEW RECORD WFO* SGF Document No.* SGF30910000

1. Open Date Open Time 2. Op Initials 3. Response Priority 4. Close Date Close Time

09/10/2003 08:00 WSH ☐ Immediate ☐ Low 09/10/2003 10:00

☐ Routine ☒ Not Applicable

5. Maintenance Description 432 characters left UPPER AIR

Replacement of the Abort Switch in the ART Remote Control Unit (RCU)

EQUIPMENT INFORMATION

6. Station ID* 7. Equipment Code 8. Serial Number 9. TM 10. AT 11. How Mal

SGF ART2 047 M M 999

Alert: Time Remaining: 0:00
(For Block 12 use only)

12. EQUIPMENT OPERATIONAL STATUS TIMES

Partially Operational				Not Operational					
a. Fully Operational		b. Logistic Delay		c. All Other		d. Logistic Delay		e. All Other	
Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes
				2					

13. PARTS USAGE and CONFIGURATION MANAGEMENT REPORTING

ASN	Vendor Part No. (New Part)	Serial Number (Old Part)	Serial Number (New Part)	
J170-5A1S4		N/A	N/A	<input type="button" value="New Row"/> <input type="button" value="Delete Row"/>

14. WORKLOAD INFORMATION

a. Routine		b. Non-Routine		c. Travel		d. Misc		e. Overtime	
Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes
						2			

MISCELLANEOUS INFORMATION

15. Maintenance Comments 691 characters left

Replaced Abort Switch in the RCU I.A.W. ART 1/2 Mod Note 20

16. Tech Initials SLB

17. SPECIAL PURPOSE REPORTING INFORMATION

a. Mod No.	b. Mod Act/Deact Date	c. Block C	d. Trouble Ticket No.	e. Block E
20	09/10/2003			

Commit A26 Place on Hold Copy A26 New A26 Cancel

Done Internet